



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
-----------------	-------------	----------------------	---------------------	------------------

10/784,066

02/20/2004

Roger P. Jackson

10,207

2610

7590  
John C. McMahon  
PO Box 30069  
Kansas City, MO 64112

05/12/2010

EXAMINER

COMSTOCK, DAVID C

ART UNIT

PAPER NUMBER

3733

MAIL DATE

DELIVERY MODE

05/12/2010

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.



UNITED STATES PATENT AND TRADEMARK OFFICE

---

Commissioner for Patents  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

**BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES**

Application Number: 10/784,066  
Filing Date: February 20, 2004  
Appellant(s): JACKSON, ROGER P.

---

John C. McMahon  
For Appellant

**EXAMINER'S ANSWER**

This is in response to the appeal brief filed 25 January 2010 appealing from the Office action mailed 16 September 2009.

**(1) Real Party in Interest**

The examiner has no comment on the statement identifying by name the real party in interest in the brief.

**(2) Related Appeals and Interferences**

The following are the related appeals, interferences, and judicial proceedings known to the examiner which may be related to, directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal:

An appeal brief has been filed in related serial no. 10/783,889. An examiner's answer has not yet been made in the related case, nor has an appeal conference yet been held.

**(3) Status of Claims**

The following is a list of claims that are rejected and pending in the application:

Claims 1-20 are rejected, pending and appealed. There are no canceled or allowed claims.

**(4) Status of Amendments After Final**

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

**(5) Summary of Claimed Subject Matter**

The examiner has no comment on the summary of claimed subject matter contained in the brief.

**(6) Grounds of Rejection to be Reviewed on Appeal**

The examiner has no comment on the appellant's statement of the grounds of rejection to be reviewed on appeal. Every ground of rejection set forth in the Office action from which the appeal is taken is being maintained by the examiner.

**(7) Claims Appendix**

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

**(8) Evidence Relied Upon**

Shafer (DE 298 10 798 U1)

Translation of paragraph of Shafer (DE 298 10 798 U1) describing Fig. 2, as provided by Appellant in the arguments filed 05 November 2007, at page 17; this translated paragraph is also set forth below in the response to arguments.

Full translation of Shafer (DE 298 10 798 U1), Schreiber Translations, Inc., May 2010.

Jackson (6,004,349)

## **(9) Grounds of Rejection**

The following ground(s) of rejection are applicable to the appealed claims:

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over DE 298 10 798 U1 (Shafer) (cited by Appellant) in view of US 6,004,349 (Jackson) (Appellant's prior patent, cited by Appellant).

Shafer discloses a threaded bone screw device 1 comprising an open head formed by a pair of spaced apart arms 4 and a cylindrical closure 3 (see, e.g., Figs. 1 and 2). The arms define a receiving channel for a bone fixation rod 2. Facing surfaces of the arms define guide and advancement structure 9 for rotatable mating with a guide flange on the closure. The guide flange is continuous and helical and has a compound contour including an enlarged outer periphery with an inward facing component. It is noted that the flange (thread) has a compound contour because it is a reverse angle thread and/or lobular (i.e. Figs. 1 and 2) and it extends helically. Thus, as between several different points in any given region of the helically extending flange, there is a compound curvature. The leading end comprises a V-shaped set ring 15. Shafer does not disclose a closure comprising a bore with a left handed thread or an installation

Art Unit: 3733

head with a breakaway region. Jackson discloses providing a closure 1 for a similar device wherein the closure comprises a bore with a left handed thread 40, an installation head 20, and a breakaway region 24 (see, e.g., Figs. 3 and 5; col. 3, line 19 - col. 4, line 55; and col. 5, lines 3-51). The bore with a left handed thread facilitates the use of an easy out tool for removal of the closure. The installation head and breakaway region allow the closure to be tightened to an optimal predetermined torque and prevent overtightening. Accordingly, it would have been obvious to one having ordinary skill in the art at the time the invention was made to have provided the device of Shafer with a closure comprising a bore with a left handed thread and an installation head with a breakaway region, in view of Jackson, in order to allow the closure to be tightened to an optimal predetermined torque and prevent overtightening and to allow the use of an easy out tool for removal of the closure. Regarding the length of the reverse thread, it is noted that in Jackson 6,004,349, the reverse thread is not "only one half turn," as asserted by Appellant, but rather extends "at least" one half turn (emphasis added). In addition, it would have been obvious to have modified the length or range of length of the thread, e.g. to extend a plurality of complete revolutions to provide better purchase for the easy out, since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

### **(10) Response to Argument**

The following response to arguments was set forth in the rejection mailed 16 September 2008 and remains pertinent to Appellant's arguments in the appeal brief.

Appellant asserts that the device of Shafer (DE 298 10 798 U1) is not "helically wound". Helically wound just means it progresses in a spiral or helical fashion, i.e. is threaded (as opposed to "twist-lock" designs). The translation provided by Appellant in the reply filed 05 November 2007 (see page 17) teaches not only that the device has threads but that the anti-splay grub screw is screwed in. This translation of Shafer referring to Fig. 2 reads:

In the exemplary embodiment shown in Figure 2, the bifurcated head 4 of the bone screw 1 likewise has a thread, which, however, has a top flank 11 and a bottom flank 10 embodied in a stepped fashion. The shoulder of the bottom flank 10 is shaped such that it forms an undercut 17. This undercut 17, particularly by means of the shoulder 18, prevents the legs 5 from being bent radially outward while the grub screw 3 is being screwed in. A positive lock is thus produced in the radial direction between the bifurcated head 4 and grub screw 3. This positive lock prevents, as previously mentioned, any slippage of the leg 5. (emphasis added)

It is quite clear that Shafer discloses a "threaded" structure (i.e., a *helically wound* flange structure).

In addition to the preceding response to arguments of record, the translation attached to this Examiner's Answer also leaves no doubt that the Shafer device is threaded. For example, page 7, lines 6-14, of the attached translation describes the second embodiment (Fig. 2) with the terms "threading" and a "setscrew" (emphasis by Examiner). In addition, page 10, lines 5-7, describes how the thread design shown in Fig. 2 prevents the legs of the head of the screw from bending outward: "This undercut

Art Unit: 3733

17 prevents--in particular via the lug 18--the leg 5 from bending radially outward **when screwing in the setscrew 3.**" (emphasis by Examiner).

Appellant's "opinion" (see brief, page 12, line 2) that the Shafer reference discloses a non-threaded design is irrelevant since it overlooks or misconstrues what the reference explicitly says, namely, that the design shown in Fig. 2 includes a threaded set screw that is screwed in. It is really as simple as that. Appellant draws a picture next to Fig. 2 (see brief, page 17) and takes the liberty to exaggerate what a threaded design would supposedly look like; however, given the very small portion of the entire circumference of the threads that is actually shown, the purported pitch imagined by Appellant is unnecessary for a helical thread and implausible in a single-start thread design (only one helical thread ridge). The angle that is necessary for the threads of Fig. 2 would not be extreme (as in Appellant's sketch) in the very small portion of the circumference that is shown in the basic drawing of Fig. 2. Moreover, Appellant's argument runs counter to the express teaching of Shafer.

Appellant also makes the statement that "[w]hen reviewing the Shafer patent, as one having skill in the art at the priority date would have done, an engineer or other skilled person would look to see what Shafer *actually* teaches. The second embodiment of Shafer *neither* shows *or* [sic] *teaches* a closure, so a closure must be *somehow* imagined to work with the receiver of Fig. 2." (emphasis by Examiner). Interestingly, when one *actually* looks at what Shafer teaches, one learns that Shafer teaches that the closure is "setscrew 3" and that it forms a friction lock with the undercut 17 and lug 18 of the thread of the head 4 (translation, page 10, lines 5-7). While it is



Art Unit: 3733

clear to a reasonable person having ordinary skill in the art from the preceding passage and Fig. 2 what the setscrew would look like, page 7, lines 12-14, of the translation also states (with regard to the second embodiment), "In particular, the setscrew is equipped with an outer threading which corresponds to the inner threading of the fork head."

Therefore, Appellant's statement that a closure is not taught is clearly in error.

Moreover, one's imagination need not be strained to envisage the shape of the thread on the set screw, since the profile of the mating structure is clearly seen in Fig. 2.

Appellant also discusses a later patent by Shafer (US 6,340,749) and attempts to suggest that because Shafer utilizes an unthreaded twist-lock design in the later patent, that this must be what he was disclosing in the reference applied in the rejection.

However, this faulty logic would hold that if a person gets more than one patent, each patent must disclose the same basic structure. In fact, the Shafer reference of the present rejection clearly discloses a threaded design and the later patent is simply a later design. Appellant also did not consider or address why Shafer went to lengths to show how the twist-lock design works in the later U.S. patent but did not do so in the Shafer reference applied in the rejection. The reason is that the earlier Shafer reference applied in the rejection uses a threaded design as clearly stated in the reference and does not use a twist-lock design as argued by Appellant. It is unclear what the later Shafer reference is supposed to prove for Appellant at all since it describes a nut 18 forming a "bayonet joint" (see, e.g., col. 3, lines 6-9) while the earlier Shafer reference makes no mention of any such joint. Furthermore, the later Shafer reference uses the term "set screw" for the threaded portion of the head while referring

Art Unit: 3733

to the twist-lock portion as a "bayonet joint" (see, e.g., col. 3, lines 16-21). This simply provides more evidence that a "set screw" is exactly what one would expect it to be: a threaded screw. Likewise, the other references that use other anti-splay designs cited by Appellant prove nothing with regard to what Shafer (DE 298 10 798 U1) teaches.

Finally, with regard to the secondary reference applied in the rejection, Appellant's argument that the left-handed thread in Jackson (6,004,349) is only a partial revolution simply concludes what Examiner already acknowledges in the rejection. However, the rejection is based on the obviousness of modifying the length of the left-handed thread, e.g., to provide a plurality of complete revolutions to provide better purchase for the easy-out feature.

#### **(11) Related Proceeding(s) Appendix**

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/David Comstock/

Examiner, Art Unit 3733

Conferees:

/Cris L. Rodriguez/

Supervisory Patent Examiner, Art Unit 3732

/Thomas C. Barrett/

Supervisory Patent Examiner, Art Unit 3775